

WHAT IS CLAIMED IS:

1. A breathing apparatus comprising:

a tank adapted to contain air under pressure operatively associated with regulator means to enable delivery of said pressurized air to a user of said apparatus;

a filter/canister system adapted to enable ambient air to pass through a filter medium having a mesh that is sufficient to trap solid particles in ambient air and/or to enable ambient air in need of cleaning to have a residence time in contact with media that is sufficient to decontaminate contaminating vapors and gases from said ambient air to form clean air;

means adapted to move said ambient air into said filter system, through said filter medium in said filter system and thence into operative relationship with a user of the apparatus;

valve assembly means operatively associated with said filter system and said tank that is adapted to control the flow of cleaned air from said filter system and fresh air from said pressure tank, such that a user can determine whether to breath cleaned air or pressurized air; and

conduit means disposed between, and in operative association with, said means to move said ambient air and means directly associated with the user of said apparatus through which air is provided to a user of said apparatus.

2. An apparatus as claimed in claim 1 further comprising plural filter/decontamination elements.

3. An apparatus as claimed in claim 1 further comprising a face mask adapted to tightly fit a wearer.

4. An apparatus as claimed in claim 3 further comprising first conduit means between said tank and said face mask, second conduit means between said filter/decontamination means and said face mask, and valving means operatively associate with said conduit means adapted to control the flow of cleaned air from said filter/decontamination means or air from said tank to said user.

5. An apparatus as claimed in claim 3 further comprising a plenum chamber operatively associated with said tank and said filter/decontamination means such that cleaned air from said filter/decontamination means and from said tank, respectively, are adapted to respectively flow into said plenum chamber and conduit means disposed between said plenum chamber and said face mask.

6. An apparatus as claimed in claim 3 having one way exhaust valving means operatively associated with said face mask.

7. An apparatus as claimed in claim 1 further comprising sensor means operatively associated with ambient air, and means to, in response to signal(s) emitted from said sensor, open or close said conduit between said filter/decontamination means and the user of the apparatus, and to, respectively, open or close the conduit between said tank and said user of said apparatus.

8. An apparatus as claimed in claim 7 wherein said valve opening or closing is in automatic response to signal(s) emitted, or transmitted, from said sensors.

9. An apparatus as claimed in claim 7 wherein said signal(s) are detectable by said user, and means for opening or closing said valve that is operable manually by said user.